WHAT IS CLAIMED IS:

1. A surface acoustic wave filter comprising:

a piezoelectric substrate;

an input-side IDT electrode and an output-side IDT electrode arranged on the piezoelectric substrate so as to be separated from each other in the propagation direction of a surface acoustic wave;

the input-side IDT electrode and the output-side IDT electrode having a thickness at which a velocity-dispersion of the filter has a negative value.

2. A surface acoustic wave filter according to Claim 1, wherein the piezoelectric substrate is a crystal substrate.

3. A surface acoustic wave filter according to Claim 1, wherein the input-side IDT electrode and the output-side IDT electrode each include an electrode layer made of Al or an Al alloy as a major electrode layer, and the electrode film thickness ratio h/λ is in the range of from about 0.035 to about 0.06, wherein h represents the film-thickness of the input-side IDT electrode and the output-side IDT electrode, and λ represents the wavelength of the surface acoustic wave.

4. A surface acoustic wave filter according to Claim 3, further comprising at least one electrode layer laminated to the electrode layer made of Al or an Al alloy, the at least one electrode layer being made of a metal excluding Al.

5. A surface acoustic wave filter according to Claim 1, wherein at least one of the input-side IDT electrode and the output-side IDT electrode is an SPUDT electrode.

6. A surface acoustic wave filter according to Claim 2, wherein the crystal substrate is an ST-cut crystal substrate having an Euler's angle (0, θ, 0), and the angle θ is in the range represented by $\theta = \{-3\cdot(h/\lambda)\times100+134\}\pm1$.

7. A surface acoustic wave filter according to Claim 1, further comprising a shield electrode provided between the input-side IDT electrode and the output-side IDT electrode.

8. A method of manufacturing a surface acoustic wave filter comprising the steps of:

providing a piezoelectric substrate;

forming an input-side IDT electrode and an output-side IDT electrode on the piezoelectric substrate so as to be separated from each other in the propagation direction of a surface acoustic wave;

setting the thickness of the input-side IDT electrode and the output-side IDT electrode such that a velocity-dispersion of the filter has a negative value.

9. A method of manufacturing a surface acoustic wave filter according to Claim 8, wherein the piezoelectric substrate is a crystal substrate.

10. A method of manufacturing a surface acoustic wave filter according to Claim 8, wherein in the step of forming the input-side IDT electrode and the output-side IDT electrode, each of the input-side IDT electrode and the output-side IDT electrode include an electrode layer made of Al or an Al alloy as a major electrode layer, and in the step of setting the thickness of the input-side electrode and the output-side electrode, the electrode film thickness ratio h/λ is set to be in the range of from about 0.035 to about 0.06, wherein h represents the film-thickness of the input-side IDT electrode and the output-side IDT electrode, and λ represents the wavelength of the surface acoustic wave.

11. A method of manufacturing a surface acoustic wave filter according to Claim 10, wherein the step of forming the input-side electrode and the output-side electrode includes the step of laminating at least one electrode layer to the electrode layer made of Al or an Al alloy, the at least one electrode layer being made of a metal excluding Al.

12. A method of manufacturing a surface acoustic wave filter according to Claim 8, wherein at least one of the input-side IDT electrode and the output-side IDT electrode is an SPUDT electrode.

13. A method of manufacturing a surface acoustic wave filter according to Claim 9, wherein the crystal substrate is an ST-cut crystal substrate having an Euler's angle (0, θ, 0), and the angle θ is in the range represented by $\theta = \{-3\cdot(h/\lambda)\times100+134\}\pm1$.

14. A method of manufacturing a surface acoustic wave filter according to Claim 8, further comprising the step of forming a shield electrode between the input-side IDT electrode and the output-side IDT electrode.